ATTACHMENT B TO RESOLUTION 11-23 April 28, 2011

STAFF'S SUGGESTED CHANGES TO THE ORIGINAL PROPOSED CARL MOYER PROGRAM GUIDELINES

This attachment contains additional modifications to staff's originally proposed revisions. Additional modifications to the proposed language are indicated by <u>underlined text</u>. Deletions to the proposed language are indicated by <u>strikeout</u>. Where indicated, chart and graph modifications will be incorporated as shown in this attachment. Only those sections containing the suggested modifications are included. All other portions remain unchanged and are indicated by the symbol "* * * * * *" for reference.

Staff has made several other non-substantial modifications throughout the Carl Moyer Program Guidelines (Guidelines) to correct grammatical and typographical errors, correct references and citations, and improve the clarity of the Guidelines that are not listed below.

REVISIONS TO PART I: CARL MOYER PROGRAM GUIDELINES: Program Overview and Project Criteria

Revised Section F. in Chapter 2: General Criteria

F. The Carl Moyer Program will <u>only</u> take credit for <u>the all</u> emission reductions achieved from <u>a</u> project <u>or part of the projects</u> funded using any Carl Moyer Program incentive funds dollars.

Revised Section S. in Chapter 2: General Criteria

S. Projects must have at least 75 percent of their total activity for the project life in California (this requirement does not apply to marine projects).

Added Section MM. in Chapter 2: General Criteria

MM. Contracts executed after the adoption date of a regulation must consider all applicable regulations when determining eligibility for a project. If an existing contract is amended to increase the total Carl Moyer Program funding of the project, then the air district must reevaluate eligibility and consider all applicable regulations. If the total dollars do not increase, then the air district does not need to reevaluate eligibility.

Added Section NN. in Chapter 2: General Criteria

NN. For a repower project, the installation of the engine must be completed in a manner such that it does not void the engine warranty provided by the

manufacturer and any remaining warranty provided by the equipment/vehicle manufacturer.

Revised Section D.4 in Chapter 3: Program Administration

4. An air district may dedicate funds to RAP after it has executed an annual grant with ARB, but must do so by March 1st prior to the end of the grant funding cycle, per the following example timeline:

Example: CMP Year 13 (Fiscal Year 2010-11)

January – June 2011	Air District executes Year 13 Grant Award
January – June 2011	Funds may be dedicated to RAP
March 1, 2013	Deadline to dedicate funds to RAP
June 30, 2013	Deadline to expend Year 13 Grant Award

However, funds that have been disbursed to districts and subsequently returned to ARB will be treated as returned funds, and reallocated as specified in Section S.

Revised Section F. 4. in Chapter 3: Program Administration

4. The deadline for acceptance of an annual grant award shall be specified in the award letter each year. The deadline for acceptance of a reallocation grant award shall be January December 31 of each year.

Revised Section I. 3. in Chapter 3: Program Administration

3. Air district match funds must be under the air district's budget authority or fiduciary control, with the exception of port funds (Health & Safety Code § 44287(e)) described in Section I.9. Funds allocated to an air district by the State of California, such as Lower Emission School Bus Program Funds or State bond funds, may not be used as Carl Moyer Program match funding. Air districts may meet their matching fund requirement on an overall program basis rather than a project-by-project basis. In other words, air districts do not need to provide match funds towards each project funded, but must fund enough projects (in total or in part) with match funds in order to meet the match requirement.

Revised Section J. 1. (C) (1) in Chapter 3: Program Administration

(1) Match funds may be used for electric and alternative fuel infrastructure projects that serve specific Carl Moyer Program qualifying project categories.

Revised Section J. 3. in Chapter 3: Program Administration

 Air districts found by ARB to have funded ineligible projects must substitute eligible projects, using eligible match funds as described in Section I, equal to the amount found ineligible or return the ineligible amount to ARB as mitigation or returned funds.

Removed Section P. 1. (B) in Chapter 3: Program Administration

(B) To liquidate a funding year, beginning with Year 8 (fiscal year 2005-2006), air districts must identify, using the CARL database, the liquidated projects to be included in that funding year. All identified projects will remain associated with that year's liquidation. Air districts must also certify that all funds associated with the funding year are liquidated.

Revised Section S. 2. in Chapter 3: Program Administration

2. ARB shall reallocate For returned funds (including funds that have been disbursed to districts that are subsequently returned to ARB prior to the expenditure deadline required under Health and Safety Code section 44287(k)) ARB shall reallocate those funds to air districts per Health and Safety Code section 44299.2(c). Air districts may apply for any amount of the available funds. To be considered for funding, an air district must apply for the funds and submit a list of eligible projects. The application must demonstrate the air district's ability to expend the amount requested on eligible Carl Moyer Program projects expeditiously.

Added Sections X. 9. (A) and (B) in Chapter 3: Program Administration

- 9. Carl Moyer Program participants that received funding and are still under contract may not apply for funding for the same project through the Carl Moyer Program, the Voucher Incentive Program, the Goods Movement Emission Reduction Program, or any other program.
 - (A) If an air district chooses to amend a contract to reduce the term, the amended project must be cost-effective during the reduced contract term, based on the cost-effectiveness values and limit that applied when the original contract was executed. If an air district agrees to accept a prorated repayment of the Carl Moyer Program grant, the repayment and amended contract execution must both occur prior to the execution of any new contract for funding.
 - (B) Emissions reductions that were previously funded are part of the baseline and must not be included as emissions benefits of any subsequent project designed to achieve emission reductions, including the Carl Moyer Program, the Voucher Incentive Program, or the Goods Movement Emission Reduction Program.

Revised Section X. 10. (now Section X. 11.) in Chapter 3: Program Administration

11. Air districts with a population greater than one million inhabitants must select from their applicant pool in a way that ensures that 50 percent or more of their Carl Moyer Program funds (including the smog abatement fee and tire fee) are expended on projects that are located in/or operate in environmental justice/high risk communities (Health & Safety Code § 43023.5). Air districts may track this on a cumulative basis (see Section Q.1.)

Added Section Z. 6. (C) (3) in Chapter 3: Program Administration

(3) For repower projects, the installation of the engine must be completed in a manner such that it does not void the engine warranty provided by the manufacturer and any remaining warranty provided by the equipment/vehicle manufacturer.

Revised Section DD. 2. (D) (and split into section (E)) in Chapter 3: Program Administration

- (D) Readings of the usage meter (hour meter, odometer, electronic monitoring unit (EMU), etc.).
- (E) Except for projects in which usage is not required to be specified in the contract (as allowed per Section Z.6.(B)(1) above), if usage is more than 30 percent below that identified in the project application, the grantee must describe any conditions (such as weather, permits, major maintenance, etc.) that significantly impacted project usage. In instances where annual usage is significantly lower than the contracted level due to unforeseen circumstances beyond the control of the grantee, the grantee may request a waiver from the air district per Section FF.4.(D).

Revised Section EE. 1. in Chapter 3: Program Administration

1. Each calendar year, air districts must conduct audits of projects funded with Carl Moyer Program Funds (see definitions, including awarded project funds, interest earned on awarded administration or project funds, and local funds used as program match funding). The audits must, on an annual basis, include at least five percent of or 30 active projects (whichever is less), and all of the projects whose owners fail to submit their most recently required project annual report as required in Section DD of this chapter.

Removed Section FF. 6. (A) and (B). in Chapter 3: Program Administration

6. Carl Moyer Program participants that received funding and are still under contract may not apply for funding for the same project through the Carl Moyer

Program, the Voucher Incentive Program, the Goods Movement Emission Reduction Program, or any other Program.

- (A) If an air district chooses to amend a contract to reduce the term, the amended project must be cost effective during the reduced contract term, based on the cost effectiveness value applied when the original contract was executed. If an air district agrees to accept a prorated repayment of the Carl Moyer Program grant, the repayment and amended contract execution must both occur prior to the contract execution.
- (B) Emission reductions that were previously funded are part of the baseline and must not be included as emission benefits of any subsequent project designed to achieve emission reductions, including the Carl Moyer Program, the Voucher Incentive Program, or the Goods Movement Emission Reduction Program.

Revised Section E. 1. and E. 1. (A) in Chapter 4: On-Road Heavy Duty Vehicles

- 1. Port and Drayage Trucks
 - (A) Current Drayage Trucks: Carl Moyer Program funding is available for the incremental NOx benefit between 1.20 g/bhp-hr and 0.20 g/bhp-hr for all drayage trucks, as defined in California Code of Regulations, title 13, section 2027(c)(15). Beginning on January 1, 2017, drayage trucks will be subject to, and must be surplus to, the Statewide Truck and Bus Regulation. No other funding opportunities are available for drayage trucks that access the Ports of Long Beach or Los Angeles. Other d Drayage trucks outside the Ports of Long Beach or Los Angeles with model year 2006 or older engines in fleets of 1-3 vehicles are eligible for limited funding through December 31, 2011.

Removed Section C. 3. (B) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(B) The current and valid title for the existing vehicle must be issued by the California Department of Motor Vehicles (DMV).

Revised Section C. 3. (D) (3) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization (now Section C. 3. (C) (3))

(3) GVWR may be documented with a photo of the engine vehicle manufacturer tag or a copy of the manufacturer build sheet. Air districts may request ARB approval of alternate GVWR documentation on a case-by-case basis.

Revised Section C. 3. (E) (2) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(2) An <u>air district approved contractor</u> participating dealership may conduct the inspection of the old vehicle and provide pictures verifying that the vehicle is in operational condition. The participant will pay the cost of the inspection.

Revised Section C. 4. (F) (1) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(1) Except for school buses, all participants must purchase a minimum of a one year or 100,000-mile major component engine warranty for the replacement new or used vehicle. The warranty must cover parts and labor. If the purchase of a new or used replacement vehicle already includes a minimum one year or 100,000 mile warranty as specified above, a separate supplemental warranty is not required. However, The warranty must cover parts and labor. It it is recommended that the highest grade warranty be purchased in order to avoid expensive repairs in the future.

Revised Section C. 6. (C) (1) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(1) Air districts <u>staff or an air district approved contractor</u> must complete the preinspection of the old vehicle and new vehicle to make sure the vehicles comply with program requirements;

Revised Section C. 6. (C) (3) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(3) Air districts must ensure the vehicle <u>and engine are is scrapped within 60</u> calendar days of the dismantler's receipt of the vehicle. <u>This must be confirmed</u> through post-inspection <u>by the air district or an air district approved contractor with the dismantler. to properly document <u>tThe</u> destruction of the old vehicle <u>and engine must be properly documented</u> in accordance with the Carl Moyer fleet modernization program requirements.</u>

Revised Section C. 8. (H) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(H) Dealerships must possess <u>pre-inspection</u> documentation of an air district preinspection of the existing and replacement vehicles prior to releasing the replacement vehicle to the participant. Upon request of the air district, ARB may waive inspection requirements or allow the dealer to conduct the inspection;

Revised Section C. 10. in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

10. Inspections: Air districts may enter into a contract, written agreement, or memorandum of understanding with a contractor to perform project inspections (pre-inspections, post-inspections, or dismantle inspections). If an air district chooses to use contractors to perform inspections, air district staff must conduct and document at least one inspection on each project without the use of a contractor. Air districts must ensure all inspection requirements are met and shall retain legal responsibility for full compliance with the inspection provisions of these Guidelines, regardless of the use of contractors. Pre-inspections and post-inspections must be performed by air district staff or by a vehicle dealership if there is a contract, written agreement, or memorandum of understanding between the dealership and air district. Inspections of the dismantled vehicle must be performed personally by air district staff.

Revised Section C. 11. (C) (4) in Chapter 5: On-Road Heavy-Duty Vehicles Fleet Modernization

(4) <u>Air district staff or the dismantler must</u> ∓take photographs of the destroyed engine and severed frame rails. <u>Dismantler</u> ₽photographs of the destroyed engine block and severed frame rails must be provided to the air district within ten (10) business days of dismantling the vehicle. The following picture views must be taken:

Revised Section D. 1. (C) in Chapter 7: Off-Road Compression-Ignition Equipment

(C) Future annual hours of equipment operation for determining emission reductions must be based only on readings from an installed and fully operational hour meter. If equipment does not have functioning hour meter at the time of the project, the meter must be repaired or replaced. If during the project life the hour meter fails for any reason, the hour meter must be repaired or replaced as soon as possible at the owner's cost. If case-by-case approval was provided by ARB to use fuel usage for determining emission reductions, then future annual fuel usage must be based on fuel logs, purchase receipts or ledger entries specific to the funded equipment. Cost-effectiveness calculations must use the hour based formula as discussed in Appendix C. Historical hours of operation must be based on the average of at least the two previous years use. Fuel usage may only be used with case by case approval from ARB. If using the fuel based formula, usage must be based on at least two years of historical fuel usage documentation specific for the equipment being funded. Documentation may include fuel logs, purchase receipts or ledger entries.

Removed Section D. 2. (B) in Chapter 7: Off-Road Compression-Ignition Equipment

(B) Repowers that are not performed by the original equipment manufacturer must follow the process set out in Appendix G.

Revised Section E. 1. (A) in Chapter 7: Off-Road Compression-Ignition Equipment and in Section C. 7. (B) (1) in Chapter 9: Off-Road Equipment Replacement

(A) Applicants must submit information regarding fleet size and compliance status.

This must include the Diesel Off-Road On-line Reporting System (DOORS)

DOORS-ID of the fleet and the DOORS Equipment Identification Number (EIN)

of the funded equipment. All documentation submitted must be signed and dated by the applicant, and include language certifying that the fleet list provided is accurate and complete.

Revised Section D. 1. (H) in Chapter 8: Off-Road Large Spark-Ignition Equipment

(H) The certification emission standard for the engine must be determined from the Executive Order or U.S. EPA Certificate of Conformity (for federally preempted engines) issued for that LSI-engine family, not by the engine model year. ARB Executive Orders for off-road engines may be found at: http://www.arb.ca.gov/msprog/offroad/cert/cert.php?eng_id=LSIE

Added Section C. 3. (A) (8) in Chapter 9: Off-Road Equipment Replacement

(8) Equipment manufactured under the "Flexibility Provisions for Equipment Manufacturers", as detailed in California Code of Regulations, title 13, section 2423(d) are ineligible for Carl Moyer Program funding as replacement equipment.

Added Section C. 3. (A) (8) in Chapter 9: Off-Road Equipment Replacement (now Section C. 3. (A) (9))

(9) The certification emission standard and/or Tier designation for the engine must be determined from the ARB Executive Order or U.S. EPA Certificate of Conformity (for federally preempted engines) issued for that engine. ARB Executive Orders for off-road engines may be found at http://www.arb.ca.gov/msprog/offroad/cert/cert.php

Revised Section C. 3. (E) (1) and (2) in Chapter 9: Off-Road Equipment Replacement

(1) <u>All Pourchasers of new equipment must purchase a one-year or 1600 hour</u> power and drive train warranty for the <u>new or used</u> replacement equipment. The warranty must cover parts and labor. <u>If the purchase of new or used</u> replacement equipment already includes a minimum one-year or 1600 hour

warranty as specified above, a separate supplemental warranty is not required. However, it is recommended that the highest grade warranty be purchased in order to avoid expensive repairs in the future. Warranty documentation must be provided to the air district. Warranty costs are not eligible for funding.

- a. For new CI equipment, the warranty must cover the equipment for a minimum duration of three years or 5000 hours.
- b. For new LSI equipment, the warranty must cover the equipment for a minimum duration of one year or 2000 hours.
- (2) Purchasers of used, late model year equipment must purchase the remaining manufacturer warranty covering part and labor, if available, on the equipment. Warranty costs are not eligible for funding. The air district may waive this requirement if they have provided ARB a satisfactory plan to ensure that funded equipment will be maintained and operated as if under warranty.

Added Section C. 7. (B) (1) b. in Chapter 9: Off-Road Equipment Replacement

b. Applicants must submit to the district DOORS EIN of the replacement equipment no later than at post-inspection of replacement equipment.

Revised Section C. 1. (D) in Chapter 10: Portable and Stationary Agricultural Sources

(D) State and air district rules impacting agricultural sources must be considered when determining whether projects provide emission reductions surplus to regulatory requirements. Moyer eligibility may be based on the requirements of the local rule if the-local-rule if the-local-rule meets the requirements of Health and Safety Code section 39666(d). An air district requesting to have eligibility based on local rules must have its Air Pollution Control Officer self-certify via email or letter to their ARB Moyer liaison that the local rule is equally as effective as or more stringent than the ATCM. <a href="Motor: The self-certification described in this section applies solely to the Moyer Program and does not relieve the district of their responsibilities under Health & Safety Code section 39666 or any other ARB program or requirement."

Revised Section C. 1. (G) in Chapter 10: Portable and Stationary Agricultural Sources

(G)The certification emission standard and/<u>or</u> Tier designation for the engine must be determined from the ARB Executive Order <u>or U.S. EPA Certificate of Conformity (for federally preempted engines)</u> issued for that engine. Executive Orders for off-road engines may be found at http://www.arb.ca.gov/msprog/offroad/cert/cert.php

Revised Section C. 1. (K) in Chapter 10: Portable and Stationary Agricultural Sources

(K) Costs for necessary peripheral equipment associated with electric motor projects from the service pole forward (e.g., service pole with guy wire, control panel, motor leads, precast concrete pad, headshaft or gear head and tubing if required for diesel to motor conversion, and up to 150 feet of connecting electric line from the pole forward to the motor) may be included in the grant award amount.

Revised Section D. 2. (A) in Chapter 11: Locomotives

(A) An alternative technology switcher must achieve a NOx emission rate of 3.5 g/bhp-hr and a PM emission rate of 0.10 0.14 g/bhp-hr.

Revised Section D. 2. (B) (2) in Chapter 11: Locomotives

(2) FEL certified locomotive emission rates are the emission standards for that locomotive <u>model year</u>. The FEL level must be lower than the required emission standard to be eligible for funding.

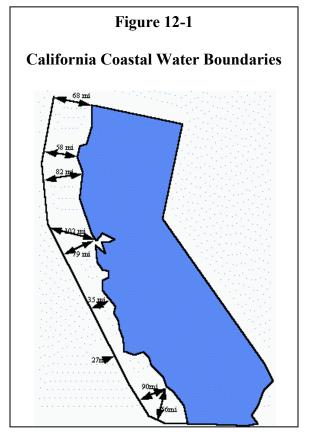
Revised Section D.2. (E) in Chapter 11: Locomotives

- (E) Due to the design of alternative technology switchers, fuel consumption for the new locomotive may differ from baseline fuel consumption. <u>Air districts may assume a fuel savings of 20% to estimate the fuel consumption for inclusion in the grant agreement. This fuel savings is already embedded into the costeffectiveness calculation, and therefore it should not be applied when determining cost-effectiveness for the project. Air districts may utilize one of the following approaches:</u>
 - (1) Assume a fuel consumption rate factor of 20 bhp-hr/gal for an alternative technology genset switcher.
 - (2) Calculate the appropriate fuel consumption rate factor. Start with the brake specific fuel consumption (typically BSFC on the engine specification sheet), in pounds (lbs)/bhp hr, divided by the density of diesel fuel to estimate the fuel consumption rate for the new locomotive engine(s). Fuel consumption for the new locomotive is then estimated by taking the estimate of total work for the baseline locomotive, in bhp hr/year (yr), divided by the estimated fuel consumption rate, in bhp hr/gallon (gal), of the new locomotive engine(s); i.e., REDUCED ENGINE FUEL CONSUMPTION (in gal) = [BASELINE ENGINE FUEL USE (in gal/yr) × BASELINE ENGINE FUEL CONSUMPTION RATE FACTOR (in bhp-hr/gal)] ÷ [Density of Diesel fuel (in lbs/gal) ÷ REDUCED ENGINE BSFC (in lbs/bhp-hr)]

(3) Air districts may propose an alternate method of estimating the fuel consumption of a new locomotive for case by case approval.

Revised Section C. 1. (C) in Chapter 12: Marine Vessels

(C) Only marine vessel activity in California coastal waters and internal waters may be used to determine project emission reductions. Figure 12-1 depicts the boundary of California coastal waters (defined as that area between the California Coastline and a line starting at the California-Oregon border at the Pacific Ocean, thence to 42.0°N 125.5°W, thence to 41.0°N 125.5°W, thence to 40.0°N 125.5°W, thence to 39.0°N 125.0°W, thence to 38.0°N 124.5°W, thence to 37.0°N 123.5°W, thence to 36.0°N 122.5°W, thence to 35.0°N 121.5°W, thence to 34.0°N 120.5°W, thence to 33.0°N 119.5°W, thence to 32.5°N 118.5°W, and ending at the California-Mexico border at the Pacific Ocean). For the purposes of the Carl Mover Program. California water boundaries are based upon each air district's emission inventory



boundary. If a local air district has not established an emission inventory boundary, ARB and air district staff will determine an appropriate boundary for use in project evaluation.

Revised Section C. 6. (D) in Chapter 12: Marine Vessels

(D) Up to 50 percent of the total cost of a shore-side transformer and other equipment between the vessel and shore-side transformer at the port or terminal is eligible for Carl Moyer Program funding. Any costs directly related and necessary to the installation of the eligible equipment may reasonably be included in the total cost, such as labor for installation, and costs of site preparation. Design and engineering costs associated with the transformer and other eligible equipment between the vessel and transformer are considered professional labor costs required to complete the installation and are eligible for funding. For All projects must be installed and operational prior to January 1, 2014. Projects at terminals and ports that are not subject to the

Shore Power Regulation are not subject to the January 1, 2014 deadline and are eligible for funding at any time.

Revised Section C. 2. (A) in Chapter 14: Lawn and Garden Equipment Replacement

(A) Application Form: To be approved for L&GE replacement funds, the applicant must meet L&GE replacement program requirements and submit an application. Once an application is approved by the air district, the air district will return the application form to the applicant. The applicant must turn in the approved application form with applicant's signature at a lawn mower exchange event the location designated by the air district.

Revised Section C. 5. (E) (2) in Chapter 14: Lawn and Garden Equipment Replacement

(2) Air district <u>or designated third party</u> reviews and approves application (if appropriate), and returns it to applicant. Application review and approval may be conducted on-site at a lawnmower exchange event.

Revised Section C. 5. (E) (3) in Chapter 14: Lawn and Garden Equipment Replacement

(3) Applicant turns in application with applicant's signature at lawn mower exchange event per subsection C. 2. (A).

Added Section C. 5. (N) (5) in Chapter 14: Lawn and Garden Equipment Replacement

(5) Funding year.

Revised Tables D-1a and D-1b in Appendix D: Tables for Emission Reduction and Cost-Effectiveness Calculations

Table D-1a Heavy Heavy-Duty Diesel Engines Converted Emission Standards

Executive Order (EO) Certification Level		(g/bhp-hr)(a) Grams per mile (g/mile)(b) Grams per gallon (g/gal)(c)				Grams per mile (g/mile)(b)			(g/gal)(c)(d)
Grams per brake horsepower- hour (g/bhp-hr)	Diesel NOx	Diesel Reactive Organic Gases (ROG)	Alternative Fuel NOx	<u>Diesel</u> <u>NOx</u>	Diesel ROG ^(e)	Alternative Fuel NOx	<u>Diesel</u> <u>NOx</u>	Diesel ROG ^(e)	Alternative Fuel NOx
<u>6.0 NOx</u>	<u>5.58</u>	<u>0.29</u>	<u>4.80</u>	<u>16.74</u>	0.86	<u>14.40</u>	<u>103.23</u>	<u>5.33</u>	<u>88.80</u>
<u>5.0 NOx</u>	<u>4.65</u>	<u>0.24</u>	4.00	<u>13.49</u>	0.70	<u>11.60</u>	<u>86.03</u>	<u>4.44</u>	<u>74.00</u>
<u>4.0 NOx</u>	<u>3.72</u>	<u>0.19</u>	<u>3.20</u>	<u> 10.79</u>	0.56	<u>9.28</u>	<u>68.82</u>	<u>3.55</u>	<u>59.20</u>
2.5 NOx+NMHC	2.21	<u>0.11</u>	<u>2.00</u>	<u>6.41</u>	0.33	<u>5.80</u>	<u>40.86</u>	<u>2.11</u>	<u>37.00</u>
1.8 NOx+NMHC	<u>1.59</u>	<u>0.08</u>	<u>1.44</u>	<u>4.61</u> <u>0.24</u> <u>4.18</u>		<u>4.18</u>	<u> 29.42</u>	<u>1.52</u>	<u> 26.64</u>
1.5 NOx+NMHC	<u>1.33</u>	<u>0.07</u>	<u>1.20</u>	<u>3.84</u>	0.20	<u>3.48</u>	<u>24.52</u>	<u>1.27</u>	<u>22.20</u>
<u>1.20</u> NOx+NMHC	<u>1.06</u>	<u>0.05</u>	0.96	<u>3.07</u>	<u>0.16</u>	2.78	<u>19.61</u>	<u>1.01</u>	<u>17.76</u>
<u>0.84</u> NOx+NMHC	0.74	0.04	0.67	<u>2.15</u>	<u>0.11</u>	<u>1.95</u>	<u>13.73</u>	<u>0.71</u>	12.43
0.20 NOx	<u>0.19</u>	<u>0.13</u>	<u>0.16</u>	<u>0.54</u>	0.37	<u>0.46</u>	<u>3.44</u>	2.36	<u>2.96</u>
<u>Particulate</u>	Diesel		Alternative	Diesel		Alternative	Diesel		Alternative
Matter (PM) 10	PM10		Fuel PM10	PM10		Fuel PM10	PM10		Fuel PM10
				<u>All E</u>	xcept Ur	ban Bus			
0.04			0.040	0.023		0.029	0.45		0.40
<u>0.01</u>	0.008		<u>0.010</u>		Urban B	<u>lus</u>	<u>0.15</u>		<u>0.19</u>
				0.032		0.040			
				All E	Except Urban Bus				
0.10	0.10 0.08 0.10		0.10	0.209		0.290	1 22		1 05
<u>0.10</u>			<u>0.10</u>		Urban B	sus	<u>1.33</u>		<u>1.85</u>
				0.320		0.400			

<u>a - Emission standards were converted where appropriate, using the NMHC and NOx fraction default values and the ultra low-sulfur diesel fuel correction factors listed in Tables D-25 and D-26, respectively.</u>

b - Mileage based emissions factors were calculated using conversion factors from Table D-28.

c - Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

d – Fuel based factors are for engines less than 750 horsepower only.

<u>e - ROG = HC * 1.26639</u>

NOTICE OF PUBLIC MEETING TO CONSIDER REVISIONS TO THE CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM GUIDELINES

Excutive Order (EO) Certification Level	Grams per brake horsepower-			Grams per mile (g/mile) ^(b)			Grams per gallon (g/gal) ^(e)		
Oxides of Nitrogen (NOx) + Nonmethand Hydrocarbons (NMHC)	Diesel NOx	Diesel Reactive Organic Gases (ROG)	Alternative Fuel NOx	Diesel NOx	Diesel ROG	Alternative Fuel NOx	Diesel NOx	Diesel ROG	Alternative Fuel NOx
2.5 ^(d)	2.21	0.09	2.00	6.41 0.26		5.80	40.86	1.67	37.00
1.2 ^(e)	1.06	0.04	0.96	3.07	0.13	2.78	19.61	1.11	17.76
0.2^(f)	0.18	0.01	0.16	0.51	0.02	0.46	3.27	0.13	2.96
Particulate Matter (PM) 10	Diesel PM10		Alternative Fuel PM10	Diesel PM10			Diesel PM10		Alternative Fuel PM10
				All Except Urban Bus					
0.04 (a)	0.000		0.040	0.023		0.029	0.45		0.40
0.01^(g)	0.008	0.010	Urban Bus			0.15		0.19	
				0.032		0.040			

a - Emission standards were converted where appropriate, using the NMHC and NOx fraction default values and the ultra low-sulfur diesel fuel correction factors listed in Tables D-25 and D-26, respectively.

b - Mileage based emissions factors were calculated using conversion factors from Table D-28.

c - Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

d - 2004 - 2006 emission standard for all on-road heavy-duty engines except diesel urban buses.

e - 2007 - 2009 emission standard for all on-road heavy-duty engines.

f - 2010+ emission standard for all on-road heavy-duty engines.

g - 2007+ emission standard for all on-road heavy-duty engines

Table D-1b

Medium Heavy-Duty Diesel Engines 2007-2010

Converted Emission Standards

EO Certification Level		g/bhp-h	nr ^(a)	g/mile ^(b)				g/gal ^(c)	(d)
(g/bhp-hr)	Diesel NOx	Diesel ROG	Alternative Fuel NOx	<u>Diesel</u> <u>NOx</u>	Diesel ROG ^(e)	Alternative Fuel NOx	<u>Diesel</u> <u>NOx</u>	Diesel ROG ^(e)	Alternative Fuel NOx
6.0 NOx	<u>5.58</u>	0.29	4.80	<u>10.60</u>	0.52	<u>8.64</u>	103.23	5.33	<u>88.80</u>
<u>5.0 NOx</u>	<u>4.65</u>	<u>0.24</u>	<u>4.00</u>	<u>8.37</u>	0.43	<u>7.20</u>	<u>86.03</u>	<u>4.44</u>	<u>74.00</u>
<u>4.0 NOx</u>	<u>3.72</u>	<u>0.19</u>	<u>3.20</u>	<u>6.70</u>	<u>0.35</u>	<u>5.76</u>	<u>68.82</u>	<u>3.55</u>	<u>59.20</u>
2.5 NOx+NMHC	<u>2.21</u>	<u>0.11</u>	<u>2.00</u>	<u>3.98</u>	<u>0.21</u>	<u>3.60</u>	<u>40.86</u>	<u>2.11</u>	<u>37.00</u>
1.8 NOx+NMHC	<u>1.59</u>	<u>0.08</u>	<u>1.44</u>	<u>2.86</u>	<u>0.15</u>	<u>2.59</u>	<u> 29.42</u>	<u>1.52</u>	<u>26.64</u>
1.5 NOx+NMHC	<u>1.33</u>	<u>0.07</u>	<u>1.20</u>	<u>2.39</u>	<u>0.12</u>	<u>2.16</u>	<u>24.52</u>	<u>1.27</u>	<u>22.20</u>
1.20 NOx+NMHC	<u>1.06</u>	<u>0.05</u>	<u>0.96</u>	<u>1.91</u>	<u>0.10</u>	<u>1.73</u>	<u> 19.61</u>	<u>1.01</u>	<u>17.76</u>
0.84 NOx+NMHC	0.74	0.04	<u>0.67</u>	<u>1.34</u>	0.07	<u>1.21</u>	<u>13.73</u>	<u>0.71</u>	<u>12.43</u>
0.20 NOx	<u>0.19</u>	<u>0.13</u>	<u>0.16</u>	0.33	<u>0.23</u>	<u>0.29</u>	<u>3.44</u>	<u>2.36</u>	<u>2.96</u>
<u>PM10</u>	Diesel PM10		Alternative Fuel PM10	Diesel PM10		Alternative Fuel PM10	Diesel PM10		Alternative Fuel PM10
				_	Except Urb				
0.04	0.000		0.040	0.014		0.018	0.45		0.40
<u>0.01</u>	0.008		<u>0.010</u>		<u>Urban B</u>	<u>us</u>	<u>0.15</u>		<u>0.19</u>
				0.032		<u>0.040</u>			
				<u>All l</u>	Except Urb	oan Bus			
<u>0.10</u>	0.08	0.08		<u>0.130</u>		<u>0.180</u>	1.33		<u>1.85</u>
0.10	0.00	0.00	<u>0.10</u>		<u>Urban Bus</u>		1.00	1.00	
				0.320		<u>0.400</u>			

<u>a</u> - Emission standards were converted where appropriate, using the NMHC and NOx fraction default values and the ultra low-sulfur diesel fuel correction factors listed in Tables D-25 and D-26, respectively.

b - Mileage based emissions factors were calculated using conversion factors from Table D-28.

c - Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

d – Fuel based factors are for engines less than 750 horsepower only.

e - ROG = HC * 1.26639

EO Certification Level	g/bhp-hr ^(a)			g/mile ^(b)			g/gal^(c)			
NOx + NMHC	Diesel NOx	Diesel ROG	Alternative Fuel NOx	Diesel NOx	Diesel ROG	Alternative Fuel NOx	Diesel NOx	Diesel ROG	Alternative Fuel NOx	
2.5^(d)	2.21	0.09	2.00	3.98	0.16	3.60	40.86	1.67	37.00	
1.2 ^(e)	1.06	0.06	0.96	1.91	0.11	1.73	19.61	1.11	17.76	
0.2^(f)	0.18	0.01	0.16 0.32 0.01		0.29	3.27	0.13	2.96		
PM10	Diesel PM10		Alternative Fuel PM10	Diesel PM10		Alternative Fuel PM10	Diesel PM10		Alternative Fuel PM10	
				All-l	Except Urk	oan Bus				
0.01^(g)	2 2 (9)			0.014		0.018	0.45		0.40	
0.01	0.008	0.008	0.010	Urban Bus			0.15		0.19	
				0.032		0.040				

a - Emission standards were converted where appropriate, using the NMHC and NOx fraction default values and the ultra low-sulfur diesel fuel correction factors listed in Tables D-25 and D-26, respectively.

Revised Tables D-2a and D-2b in Appendix D: Tables for Emission Reduction and Cost-Effectiveness Calculations

Table D-2a

Medium Heavy-Duty Alternative Fuel Engines
Converted Emission Standards

Model Year	g/bhp-hr		g/m	ile ^(a)	g/gal ^(b,c)		
Wiodei Teai	NOx	PM10	NOx	PM10	NOx	PM10	
1988 – 1989	6.0	0.60	11.40	1.140	111.00	11.10	
1990	6.0	0.60	10.80	1.080	111.00	11.10	
1991 – 1993	5.0	0.25	9.00	0.450	92.50	4.63	
1994 – 1997	5.0	0.10	9.00	0.180	92.50	1.85	
1998 – 2001	4.0	0.10	7.20	0.180	74.00	1.85	
2002 – 2006	2.0	0.10	3.60	0.180	37.00	1.85	
2007 <u>– 2009</u>	1.2	0.01	2.16	0.018	22.20	0.19	
2010 <u>+</u>	0.2	0.01	0.36	0.018	3.70	0.19	

a - Mileage based emissions factors were calculated using conversion factors from Table D-28.

b - Mileage based emissions factors were calculated using conversion factors from Table D-28.

c - Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

d - 2007 - 2009 emission standard for all on-road heavy-duty engines.

e - 2010+ emission standard for all on-road heavy-duty engines.

f - 2007+ emission standard for all on-road heavy-duty engines.

b - Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

c - Fuel based factors are for engines less than 750 horsepower only.

Table D-2b
Heavy Heavy-Duty Alternative Fuel Engines
Converted Emission Standards

Madel Veer	g/bhp-hr		g/m	ile ^(a)	g/gal ^(b,c)		
Model Year	NOx	PM10	NOx	PM10	NOx	PM10	
1988 – 1989	6.0	0.60	18.60	1.860	111.00	11.10	
1990	6.0	0.60	18.00	1.800	111.00	11.10	
1991 – 1993	5.0	0.25	15.00	0.750	92.50	4.63	
1994 – 1997	5.0	0.10	14.50	0.290	92.50	1.85	
1998 – 2001	4.0	0.10	11.60	0.290	74.00	1.85	
2002 – 2006	2.0	0.10	5.80	0.290	37.00	1.85	
2007 <u>– 2009</u>	1.2	0.01	3.48	0.029	22.20	0.19	
2010 <u>+</u>	0.2	0.01	0.58	0.029	3.70	0.19	

a - Mileage based emissions factors were calculated using conversion factors from Table D-28.

b - Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

c - Fuel based factors are for engines less than 750 horsepower only.

Revised Tables D-9a and D-9b in Appendix D: Tables for Emission Reduction and Cost-Effectiveness Calculations

Table D-9a Emergency Vehicle (Fire Apparatus) Medium Heavy-Duty Diesel Engine Converted Emission Standards

Model Vee	g/bhp-hr		g/mile ^{(a)(b)}		g/gallon ^{(b)(c)(d)}		
Model Year	Certification Standard	NOx	ROG ^(e)	PM10	NOx	ROG ^(e)	PM10
pre-1990	6.0 NOx	10.60	0.55	0.821	103.23	5.33	7.992
1990	6.0 NOx	10.04	0.52	0.778	103.23	5.33	7.992
1991 - 1993	5.0 NOx	8.37	0.43	0.324	86.03	4.44	3.330
1994 - 1997	5.0 NOx	8.37	0.43	0.130	86.03	4.44	1.332
1998 - 2001	4.0 NOx	6.70	0.35	0.130	68.82	3.55	1.332
2002 - 2006	2.5 NOx + NMHC	3.98	0.21	0.130	40.86	2.11	1.332
2007 2000	1.2 NOx + NMHC	1.91	0.10	0.014	19.61	1.01	0.148
2007 <u>- 2009</u>	<u>0.84 NOx + NMHC</u>	<u>1.34</u>	<u>0.07</u>	<u>0.014</u>	<u>13.73</u>	<u>0.71</u>	<u>0.148</u>
2010 <u>+</u>	0.2 NOx + NMHC	0.3 <u>3</u> 2	0. <u>23</u> 02	0.014	3. <u>44</u> 27	2.36 0.17	0.148

- a Mileage based emissions factors were calculated using conversion factors from Table D-28.
- b Emission standards were converted where appropriate, using the NMHC and NOx fraction default values and the ultra low-sulfur diesel fuel correction factors listed in Tables D-25 and D-26, respectively.
- c Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.
- d Fuel based factors are for engines less than 750 horsepower only.
- e ROG = Hydrocarbons (HC) * 1.226639.

Table D-9b Emergency Vehicle (Fire Apparatus) Heavy Heavy-Duty Diesel Engine Converted Emission Standards

Madal Vasa	g/bhp-hr		g/mile ^{(a)(b)}		g/gallon ^{(b)(c)(d)}		
Model Year	Certification Standard	NOx	ROG ^(e)	PM10	NOx	ROG ^(e)	PM10
pre-1990	6.0 NOx	17.30	0.89	1.339	103.23	5.33	7.992
1990	6.0 NOx	16.74	0.86	1.296	103.23	5.33	7.992
1991 - 1993	5.0 NOx	13.95	0.72	0.540	86.03	4.44	3.330
1994 - 1997	5.0 NOx	13.49	0.70	0.209	86.03	4.44	1.332
1998 - 2001	4.0 NOx	10.79	0.56	0.209	68.82	3.55	1.332
2002 - 2006	2.5 NOx + NMHC	6.41	0.33	0.209	40.86	2.11	1.332
2007 2000	1.2 NOx + NMHC	3.07	0.16	0.023	19.61	1.01	0.148
2007 <u>- 2009</u>	0.84 NOx + NMHC	<u>2.15</u>	<u>0.11</u>	<u>0.023</u>	<u>13.73</u>	<u>0.71</u>	<u>0.148</u>
2010 <u>+</u>	0.2 NOx + NMHC	0.5 <u>4</u> 1	0. <u>37</u> 03	0.0230 014	3. <u>44</u> 27	2.36 0.17	0.148

- a Mileage based emissions factors were calculated using conversion factors from Table D-28.
- b Emission standards were converted where appropriate, using the NMHC and NOx fraction default values and the ultra low-sulfur diesel fuel correction factors listed in Tables D-25 and D-26, respectively.
- c Fuel based emissions factors were calculated using fuel consumption rate factors from Table D-24.

NOTICE OF PUBLIC MEETING TO CONSIDER REVISIONS TO THE CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM GUIDELINES

- d Fuel based factors are for engines less than 750 horsepower only.
- e ROG = HC * 1.26639.

Added Reference for Chapter 12: Marine Vessels in Appendix F: References

Chapter 12: Marine Vessels

ARB, 1983. Report to the Legislature on Air Pollutant Emissions from Marine Vessels.

Removed Appendix G: Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

• Updated all references regarding Appendix G and Appendix H

REVISIONS TO PART II: On-Road Voucher Incentive Program Guidelines

Revised Sections C. 3. (C) (3) and C. 4. (D) (3) in the On-Road Voucher Incentive Program

(3) GVWR may be documented with a photo of the engine vehicle manufacturer tag or a copy of the manufacturer build sheet.

Revised Appendix E: Existing Vehicle Requirements in the On-Road Voucher Incentive Program

Photo of vehicle manufacturer tag or copy of manufacturer build sheet

Manufacturer build sheet or engine tag photo shows that existing vehicle meets
the criteria for either a medium heavy-duty vehicle or a heavy heavy-duty vehicle
as defined below:

Revised Section C. 7. (T) in the On-Road Voucher Incentive Program

(T) Air district staff must conduct dismantler inspections. For all other inspections listed below, air districts have the option of conducting inspections or having the dealership conduct the inspections. Air districts may enter into a contract, written agreement, or memorandum of understanding with a 1) participating dealership or retrofit installer to perform pre-inspections and/or post-inspections, or 2) with a participating dismantler to perform dismantle inspections. If an air district chooses to use dealerships, retrofit installers, or dismantlers to perform inspections, air district staff must conduct and document at least one inspection on each project without the use of a contractor. Air districts must ensure all inspection requirements are met and shall retain legal responsibility for full compliance with the inspection provisions of these Guidelines. If the air district decides to conduct the inspections, the inspections must be scheduled and completed within the following timeframes:

Revised Section C. 7. (DD) in the On-Road Voucher Incentive Program

(DD) Air district staff or a designated contractor must conduct the dismantle inspection of the existing vehicle at the dismantler within 60 calendar days of being notified the existing vehicle has been delivered to the dismantler yard. Inspection forms are in Appendix I. The dismantle inspection should include verification of engine destruction, vehicle frame rails are completely severed, and verification the dismantler yard has filed a Notice of Acquisition/Report of Vehicle To Be Dismantled (REG 42) with DMV. Verification can include a copy of the form filed with DMV. Air districts must also receive official

verification from the dismantler that the REG 42 form has been accepted by DMV. This verification may occur after the dismantle inspection.

Revised Section C. 7. (HH) and Table 2 in the On-Road Voucher Incentive Program

(HH) Audit of Participating Dealers and Retrofit Installers: Air districts that conduct 100 percent of the VIP inspections are not required to audit dealerships. Air districts that do not conduct 100 percent of required inspections themselves must audit 5 percent of each type of inspection (pre, post, and pre-dismantle, and dismantle). Audits should be done randomly and occur throughout the implementation timeline of the air district. Table 2 includes the audit requirements for the air districts to follow.

Table 2
Air District Audit Requirements

Type of Audit Inspection	Purpose(s)	Timing of Audit Inspection
Pre-inspection	 Verify existing truck is in operational condition Verify existing truck application information 	After application is submitted to air district but prior to approving the application.
Post-inspection	 Verify replacement truck meets emission standard: or Verify that retrofit device as installed matches executive order verification Verify application information 	After replacement truck is delivered or retrofit installation, and prior to payment being issued
Replacement Projects Only:		
Pre-dismantle inspection (Replacement projects only)	 Verify existing truck is in operational condition and has not been stripped of parts Verify existing truck application information 	After existing truck is delivered to dealership and payment is issued. Existing truck is at dealership location
Dismantle inspection	 Verify engine destruction Verify that frame rails are completely severed Obtain copy of REG 42 form filed with DMV 	After engine and frame rail destruction.

Revised Appendix B in the On-Road Voucher Incentive Program

6. AUDITS

How the air district chooses to audit and inspect the projects. There are two options:

a. The air district can choose to do all pre and post inspections.

b. If the air district chooses to have dealerships, and retrofit installers, and/or dismantlers do conduct the inspections, the air district must audit 5 percent of each inspection (pre-inspection, post-inspection, and pre-dismantle, and dismantle inspection). The audits should be done randomly. The air district must outline how they will conduct audits in the VIP Policies and Procedures.

7. DEALER & RETROFIT INSTALLER TRAINING

The air district's method for working with ARB and setting up training for the participating dealers and retrofit installers on the Voucher Incentive Program. If the air district chooses to have dealers, and retrofit installers, and/or dismantlers do conduct the inspections, the air district must specify the media in which the inspection photographs will be submitted to the air district. The air district must work with ARB in coordinating training and materials.

Revised Section 8. a. in Appendix C in the On-Road Voucher Incentive Program

a. All inspections except for the dismantle inspection may be conducted by an authorized Dealership. Air districts may enter into a contract, written agreement, or memorandum of understanding with a participating dealership to perform preinspections and/or post-inspections. If an air district chooses to use dealerships to perform inspections, air district staff must conduct and document at least one inspection on each project without the use of a contractor. Air districts must ensure all inspection requirements are met and shall retain legal responsibility for full compliance with the inspection provisions of these Guidelines. If the Air District requests the Dealership to conduct an inspection, then the inspection must be conducted as follows:

Revised Section 8. a. in Appendix C(1) in the On-Road Voucher Incentive Program

a. All retrofit project inspections may be conducted by an authorized Retrofit Installer. Air districts may enter into a contract, written agreement, or memorandum of understanding with a retrofit installer to perform pre-inspections and/or post-inspections. If an air district chooses to use retrofit installers to perform inspections, air district staff must conduct and document at least one inspection on each project without the use of a contractor. Air districts must ensure all inspection requirements are met and shall retain legal responsibility for full compliance with the inspection provisions of these Guidelines. If the Air District requests that the Retrofit Installer conduct an inspection, then the inspection must be conducted as follows:

Revised Section 6 in Appendix D in the On-Road Voucher Incentive Program

6. Dismantler Inspection: Once the Air District is notified, a dismantler-inspection will be scheduled and photos documenting the destruction of the engine will be taken in accordance with the Guidelines. Owner shall not move the vehicle off of their property or part out a vehicle until a dismantler inspection by the Air District or a designated contractor has been performed and given approval by the Air District.

REVISIONS TO PART II: Off-Road Voucher Incentive Program Guidelines

Revised the Off-Road Voucher Incentive Program requiring the DOORS-ID of the fleet and/or the EIN for the old and replacement equipment in the following sections: Section C. 3. (C); Section C. 5. (R) Table 1, Appendix A: Application Package; Appendix C: Dealership Agreement Terms to be included in Master Agreement Between the Air District and Dealer, Section 9 e.; Appendix E: Air District Review Checklist: Initial Review; and Appendix G: Receipt of Replacement Voucher

DOORS Registration: The existing equipment must be registered in DOORS if it is subject to the Off-Road Regulation. A copy of the DOORS fleet summary sheet that shows the fleet size, <u>DOORS-ID of the fleet</u>, and indicates the piece of equipment's identification number (EIN) must be submitted with the application package.

Added Section C. 4. (C) (5) in the Off-Road Voucher Incentive Program

(5) Equipment manufactured under the "Flexibility Provisions for Equipment Manufacturers", as described in California Code of Regulations, title 13, section 2423(d), are ineligible for Carl Moyer Program funding as replacement equipment.

Revised Section C. 4. (C) (5) (now section C. 4. (C) (6)) in the Off-Road Voucher Incentive Program

(6) The certification emission standards and/or Tier designation for the engine must be determined from the ARB Executive Order or U.S. EPA Certificate of Conformity (for federally preempted engines) issued for that engine. ARB Executive Orders for off-road engines may be found at http://www.arb.ca.gov/msprog/offroad/cert/cert.php

Revised Section C. 4. (D) in the Off-Road Voucher Incentive Program

(C) Warranty Requirements: Purchasers of new CI equipment must purchase a minimum of a one three-year or 1600 5000 hours power and drive train warranty

for the replacement equipment. The warranty must cover parts and labor. Purchasers of used, late model year equipment must purchase the remaining manufacturer warranty, if available, on the equipment. Warranty documentation must be provided to the air district. Warranty costs are not eligible for funding. If the purchase of new replacement equipment already includes a minimum one year or 1600 hour warranty, as specified above, a separate supplemental warranty is not required. However, it is recommended that the highest-grade warranty be purchased in order to avoid expensive repairs in the future. No Carl Moyer Program funds will be issued for maintenance or repairs related to the operation of the equipment. The participant takes sole responsibility for ensuring that the equipment is in operational condition.

Revised Appendix A: Application Package, Eligibility Criteria, in the Off-Road Voucher Incentive Program

• Eligible Equipment: Uncontrolled off-road compression ignition equipment with engines that are greater than or equal to than 25 horsepower (hp) and less than 175 hp that meet the following criteria are eligible to participate in the ORVIP.